

(19) World Intellectual Property  
Organization  
International Bureau



534829

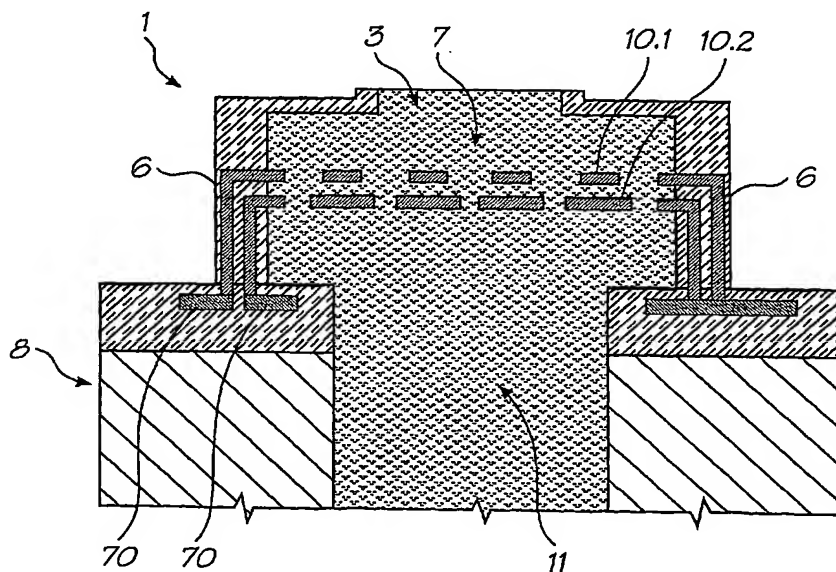
(43) International Publication Date  
10 June 2004 (10.06.2004)

PCT

(10) International Publication Number  
WO 2004/048105 A1

- (51) International Patent Classification<sup>7</sup>: B41J 2/05
- (21) International Application Number:  
PCT/AU2003/001511
- (22) International Filing Date:  
17 November 2003 (17.11.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
10/302,644 23 November 2002 (23.11.2002) US
- (71) Applicant (for all designated States except US): SILVERBROOK RESEARCH PTY LTD [AU/AU]; 393 Darling Street, Balmain, New South Wales 2041 (AU).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): SILVERBROOK, Kia [AU/AU]; Silverbrook Research Pty Ltd, 393 Darling Street, Balmain, New South Wales 2041 (AU).
- (74) Agent: SILVERBROOK, Kia; Silverbrook Research Pty Ltd, 393 Darling Street, Balmain, New South Wales 2041 (AU).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: STACKED HEATER ELEMENTS IN A THERMAL INK JET PRINthead



(57) **Abstract.** There is disclosed an ink jet printhead which comprises a plurality of nozzles (3) and one or more heater elements (10) corresponding to each nozzle (3). Each heater element is configured to heat a bubble forming liquid in the printhead to a temperature above its boiling point to form a gas bubble (12) therein. The generation of the bubble causes the ejection of a drop of an ejectable liquid (such as ink) through the respective corresponding nozzle, to effect printing. The printhead has a plurality of nozzle chambers (7) each corresponding to a respective nozzle, with a plurality of the heater elements being disposed within each chamber. The heater elements within each chamber are formed on different respective layers to one another.

BEST AVAILABLE COPY

WO 2004/048105 A1